

## Publication List April–September 2002

### **A**

Amendt, P., Bradley, D. K., Landen, O. L., Pollaine, S. M., Suter, L. J., and Turner, R. E., *Radiation Symmetry in Hohlraums*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149245. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Amendt, P., Colvin, J. D., and Robey, H. F., *Modified Bell-Plessel Effect with Compressibility: Application to Double-Shell Ignition Targets for the National Ignition Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148274-ABS. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Amendt, P., Colvin, J., Tipton, B., Hinkel, D., Edwards, J., Landen, N., Marinak, M., Milovich, J., Ramshaw, J., Robey, H., Suter, L., Varnum, B., and Watt, B., *Indirect-Drive Non-Cryogenic Double-Shell Ignition Target Designs for the NIF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-145828 Rev 2. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Anthamatten, M., Buckley, S., Chancellor, C., Nissen, A., Fearon, E., Letts, S. A., and Cook, R., *Control of Surface Roughness in Polymer Films by Solvent-Vapor Exposure*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-146422. Prepared for *Annual American Physical Society March Mtg 2002*, Indianapolis, IN, Mar 18–22, 2002.

### **B**

Back, C. A., Bauer, J., Hammer, J., Castor, J., Lasinski, B., Turner, R., Rambo, P., Landen, O., Suter, L., Rosen, M., and Hsing, W., *Laboratory Experiments on Radiation Transport in Diffusive, Supersonic Media*, Lawrence Livermore National Laboratory,

Livermore, CA, UCRL-PRES-149414. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Back, C. A., *Multi-keV X-Ray Conversion Efficiency in Laser-Produced Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149203-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Bailey, J. E., Chandler, G. A., Cohen, D., Cuneo, M. E., Foord, M. E., Heeter, R. F., Jobe, D., Lake, P. W., MacFarlane, J. J., Nash, T. J., Nielson, D. S., Smelser, R., and Torres, J., “Radiation Science Using Z-Pinch X Rays,” *Phys. Plasmas* **9**(5Pt.2), 2186–2194 (2002).

Barrera, C. A., Morse, E. C., Moran, M. J., and Koch, J. A., *Characterization of Scintillator Materials for Downscattered Neutron Imaging*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149259-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Beach, R. J., Feit, M. D., Page, R. H., Brasure, L. D., Wilcox, R., and Payne, S. A., *Scalable Antiguided Ribbon Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-143422; also in *J. Opt. Soc. Am. B* **19**(7), 1521 (2002).

Berger, R. L., *Modeling Experiments with Mesoscale Codes—Success & Failures*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148186. Prepared for *Laser-Plasma Interaction Workshops*, Livermore, CA, Apr 3–5, 2002.

Bittner, D. N., Collins, G., and Sater, J. D., *Generating Low Temperature Layers with IR Heating*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149702. Submitted to *Fusion Sci. and Technol.*

Borghesi, M., Bulanov, S., Campbell, D. H., Clarke, R. J., Esirkepov, T. Z., Galimberti, M., Gizzi, L. A., MacKinnon, A. J., Naumova, N. M., Pegoraro, F., Ruhl, H., Schiavi, A., and Willi, O., “Macroscopic Evidence of Soliton Formation in Multiterawatt Laser-Plasma Interaction,” *Phys. Rev. Lett.* **88**(13), 81–84 (2002).

Borghesi, M., Campbell, D. H., Schiavi, A., Haines, M. G., Willi, O., MacKinnon, A. J., Patel, P., Gizzi, L. A., Galimberti, M., Clarke, R. J., Pegoraro, F., Ruhl, H., and Bulanov, S., *Electric Field Detection in Laser-Plasma Interaction Experiments via the Proton Imaging Technique*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-147112; also in *Phys. Plasmas* **9**(5Pt.2), 2214–2220 (2002).

Bradley, D. K., Collins, G. W., Braun, D., Moon, S. J., Suter, L., Langdon, A. B., Glenzer, S., Kirkwood, R., Yaakobi, B., Seka, W., Stoeckl, C., Marshall, F. J., and Bahr, R., *Measurements of Preheat and Laser-Plasma Interactions at Irradiances Between  $10^{15}$  and  $10^{16}$  W/cm<sup>2</sup>*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149222-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Bradley, D. K., Collins, G. W., Braun, D., Moon, S., Suter, L., Langdon, A. B., Glenzer, S., Kirkwood, R., Yaakobi, B., Seka, W., Stoeckl, C., Marshall, F. J., and Bahr, R., *Measurements of Preheat and Laser-Plasma Interactions at Irradiances Close to  $10^{16}$  W/cm<sup>2</sup>*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148553. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Bradley, D. K., Collins, G. W., Celliers, P., Eggert, J., Kane, J., Hicks, D., Cauble, R., Braun, D., and Moon, S. J., *Diamond Shock Equation of State Measurements at the Melt Transition*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149223-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Brilliant, N. A., Beach, R. J., Drobshoff, A. D., and Payne, S. A., “Narrow-Line Ytterbium Fiber Master-Oscillator Power Amplifier,” *J. Opt. Soc. Am. B* **19**(5), 981–991 (2002).

## C

Celliers, P. M., Collins, G. W., Hicks, D. G., Eggert, J., Hammel, B. A., Loubeire, P. A., Dewaele, A., Koenig, M., Benuzzi, A., Henry, E., Lee, K. M., Pasley, J., Neely, D.,

and Danson, C., *Shock Compression of Pre-Compressed Hydrogen*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149726-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Cohen, B. I., Dimits, A. M., Nevins, W. M., Chen, Y., and Parker, S., *Kinetic Electron Closures for Electromagnetic Simulation of Drift and Shear-Alfven Waves II*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-142446; also in *Phys. Plasmas* **9**(5Pt.2), 1915–1924 (2002).

Colvin, J. D., Legrand, M., Remington, B. A., Schurtz, G., and Weber, S. V., *A Model for Instability Growth in Accelerated Solid Metals*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-143792 Rev 1. Submitted to *Phys. Rev. E*.

Cook, R., *Recent Progress in the Development of Capsule Targets for the National Ignition Facility (NIF)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148259-ABS. Prepared for *27th European Conf on Laser Interaction with Matter*, Moscow, Russia, Oct 7–11, 2002.

Cook, R., *Solution Based Deposition of Polyimide Ablators for NIF Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ID-149602.

## D

Dimonte, G., *Dependence of Turbulent Rayleigh–Taylor (RT) Instability on Initial Perturbations*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-147935. Submitted to *Phys. Rev. E*.

Divol, L., and Mounaix, P., *Near Threshold Reflectivity Fluctuations in the Independent-Convective-Hot-Spot Model Limit of Spatially Smoothed Laser Beam*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148982. Submitted to *Phys. Rev. Lett.*

Divol, L., Cohen, B. I., Froula, D. H., Glenzer, S. H., Langdon, A. B., Lasinski, B. F., and Williams, E. A., *Non-Linear Behavior of Stimulated Brillouin Scattering in 1D-Hybrid PIC Simulations of a 500 μm Long Be Plasma*, Lawrence Livermore National Laboratory,

Livermore, CA, UCRL-PRES-148447. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Divol, L., Cohen, B. I., Froula, D. H., Glenzer, S. H., Langdon, A. B., Lasinski, B. F., and Williams, E. A., *Non-Linear Behavior of Stimulated Brillouin Scattering: Experiments, Detailed Simulations and Reduced Models*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148978.

Divol, L., Cohen, B. I., Williams, E. A., Langdon, A. B., and Lasinski, B. F., *Nonlinear Saturation of Stimulated Brillouin Scattering for Long Time Scales*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149983. Submitted to *Phys. Rev. Lett.*

Divol, L., *Detailed Pictures of the Saturation of SBS Driven Acoustic Waves in Laser Heated Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148980-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Divol, L., *Workshop on the Nonlinear Saturation of Stimulated Raman and Brillouin Instabilities for Plasma and Laser Parameters of Interest to Inertial Fusion Confinement and High Energy Density Science*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148983-SUM.

## F

Fisher, R. K., Stephens, R. B., Disdier, L., Bourgade, J. L., Rouyer, A., Jaanimagi, P. A., Sangster, T. C., Lerche, R. A., and Izumi, N., “High-Resolution Neutron Imaging of Laser Fusion Targets Using Bubble Detectors,” *Phys. Plasmas* **9**(5Pt.2), 2182–2185 (2002).

Foster, J. M., Wilde, B. H., Rosen, P. A., Perry, T. S., Fell, M., Edwards, M. J., Lasinski, B. F., Turner, R. E., and Gittings, M. L., *Supersonic Jet and Shock Interactions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-145950; also in *Phys. Plasmas* **9**(5Pt.2), 2251–2263 (2002).

Froula, D. H., Divol, L., and Glenzer, S. H., *Observation of Ion Heating Due to SBS Driven Ion-Acoustic Waves Using Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-145885 Rev 1. Prepared for University of Michigan Physics Department, Michigan, May 30, 2002.

Froula, D. H., Divol, L., Glenzer, S. H., Baldis, H., Gregori, G., MacKinnon, A., Montgomery, D. S., and Johnson, R., *Search for SBS Saturation Processes with Thomson Scattering Experiments on Ion-Acoustic Waves in Beryllium Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148448. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Froula, D., Divol, L., Baldis, H., Gregori, G., MacKinnon, A., Montgomery, D. S., Johnson, R., and Glenzer, S. H., *Laser-Plasma Interaction Experiments in the Nonlinear Saturated Regime*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149002-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

## G

Gies, A. P., Nonidez, W. K., Anthamatten, M., Cook, R. C., and Mays, J. W., *Characterization of an Insoluble Polyimide Oligomer by Matrix Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148942. Submitted to *Rapid Commun. in Mass Spectrometry*.

Glendinning, S. G., Braun, D. G., Edwards, M. J., Hsing, W. W., Lasinski, B. F., Louis, H., Miles, A., Moreno, J., Peyser, T. A., Remington, B. A., Robey, H. F., Turano, E. J., Verdon, C. P., and Zhou, Y., *Effect of Shock Proximity on Richtmyer-Meshkov Growth*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149199-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Glenzer, S. H., *Dense Plasma Characterization by X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-144574-ABS Rev 1.

Prepared for *Intl Conf on Strongly Coupled Coulomb Systems*, Santa Fe, NM, Sept 2–6, 2002.

Glenzer, S. H., Gregori, G., Lee, R. W., Pollaine, S. W., and Landen, O. L., *Demonstration of X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149694. Submitted to *Nature*.

Glenzer, S. H., Gregori, G., Lee, R. W., Rogers, F., Pollaine, S. M., and Landen, O. L., *Warm Dense Matter Characterization by X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-138258 Rev 1. Prepared for *Intl Conf on Strongly Coupled Coulomb Systems*, Santa Fe, NM, Sept 2–6, 2002.

Glenzer, S. H., Gregori, G., Rogers, F. J., Lee, R. W., Pollaine, S. M., and Landen, O. L., *Ionization Balance Measurements from Solid-Density Plasmas by X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149135-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Glenzer, S. H., Jones, O. S., Suter, L. J., Turner, R. E., Kauffman, R. L., Hammel, B. A., Wallace, R. J., and Landen, O. L., *Measurements of the Absolute Hohlraum Wall Albedo under Ignition Foot Drive Conditions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148446. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Glenzer, S. H., Jones, O., Suter, L. J., Turner, R. E., Wallace, R., and Weber, F., *Cocktail Hohlraum Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147840. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Glenzer, S. H., *We Will Need a Strong Scientific Basis to Address Laser Backscattering on NIF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149645. Prepared for *High-Energy-Density Physics Summer School*, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Glenzer, S. H., Young, E., Chambers, D. M., Pinto, P. A., Marjoribanks, R. S., Renner, O., and Topping, S., *Thomson Scattering Measurements of Heat Flow in a Laser-Produced Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149211. Submitted to *Phys. Rev. Lett.*

Glenzer, S., and Divol, L., *Workshop on the Nonlinear Saturation of Stimulated Raman and Brillouin Instabilities for Plasma and Laser Parameters of Interest to Inertial Fusion Confinement and High Energy Density Science*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147838. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Glenzer, S., Gregori, G., Lee, R. W., Pollaine, S. M., and Landen, O. L., *Warm Dense Matter Characterization by X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-138258. Prepared for *Intl Conf on Warm Dense Matter*, Hamburg, Germany, Jun 1–7, 2002.

Glenzer, S., *Saturation of SBS and SRS in Indirect-Drive Inertial Confinement Fusion*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147841. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Glenzer, S., *Thomson Scattering Experiments on the Trident Laser Have Resulted in Important Insights in Saturation Physics*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147839. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Gregori, G., Glenzer, S. H., Lee, R. W., and Landen, O. L., *Interpretation of X-Ray Thomson Scattering in Warm Dense Matter*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148984. Prepared for *Intl Conf on Strongly Coupled Coulomb Systems*, Santa Fe, NM, Sept 2–6, 2002.

Gregori, G., Glenzer, S. H., Lee, R. W., Hicks, D. G., Pasley, J., Collins, G. W., Celliers, P., Bastea, M., Pollaine, S. M., and Landen, O. L., *Calculations and Measurements of X-Ray Thomson Scattering Spectra in Warm Dense Matter*, Lawrence Livermore National

Laboratory, Livermore, CA, UCRL-JC-148076. Prepared for *16th Intl Conf on Spectral Line Shapes*, Berkeley, CA, Jun 3–7, 2002.

Gregori, G., Glenzer, S., Froula, D., and Divol, L., *Project Proposal to the PALS Research Infrastructure X-Ray Thomson Scattering Characterization of Low-Z-Materials*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PROP-149136.

Gregori, G., Landen, O. L., Lee, R. W., Pollaine, S. M., and Glenzer, S. H., *Analysis of X-Ray Scattered Spectra from Solid Density Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149081-ABS. Prepared for *American Physics Society 44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Gregori, G., Landen, O., Hicks, D., Pasley, J., Collins, G., Celliers, P., Bastea, M., and Glenzer, S., *Theoretical Model and Interpretation of Dense Plasma X-Ray Thomson Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-147395. Prepared for *13th Atomic Processes in Plasmas Topical Conf on Atomic Processes in Plasmas*, Gatlinburg, Tennessee, Apr 22–25, 2002.

## H

Haan, S. W., Dittrich, T., Hatchett, S., Marinak, M., Munro, D., Glendinning, S. G., and Collins, G., *Hydrodynamic Instability Modeling for Ignition Targets for the National Ignition Facility, and for Omega Experiments Designed to Test That Modeling*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148258-ABS Rev 1. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Haan, S. W., Dittrich, T., Hatchett, S., Marinak, M., Munro, D., and Suter, L., *Hydrodynamic Instability Modeling for Ignition Targets for the National Ignition Facility, and for Omega Experiments Designed to Test That Modeling*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148258-ABS. Prepared for *XXVII European Conf on Laser Interaction with Matter*, Moscow, Russia, Oct 7–11, 2002.

Haan, S. W., Dittrich, T., Herrmann, M., Strobel, G., Suter, L., Marinak, M., Amendt, P., Pollaine, S., Munro, D., and Hatchett, S., *Status and Issues in Design of NIF*

*Indirect Drive Ignition Targets*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148667, June 5, 2002.

Haan, S. W., Koch, J. A., Glendinning, S. G., Dittrich, T. R., Munro, D., Marinak, M. M., and Hatchett, S. P., *Simulations of Ignition Capsule Diagnostics, and of Omega Rayleigh Taylor Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149030-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Haan, S. W., *Laser Driven Fusion and the National Ignition Facility, or Why Is the US Government Spending 2 Billion Dollars on a Huge Laser?* Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147803. Prepared for Calvin College Physics Dept, Grand Rapids, MI, Apr 4, 2002.

Haan, S., *Putting It All Together: Design for Ignition on NIF, Lecture 1: Ignition and Burn*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149156. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Haan, S., *Putting It All Together: Design of Ignition Targets Lecture 2: Pulse Shaping and Shock Timing*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149279. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Haan, S., *Putting It All Together: Design of Ignition Targets Lecture 3: Hydrodynamic Instabilities*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149324. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Haan, S., *Putting It All Together: Design of Ignition Targets Lecture 4: Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149326. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Hammel, B. A., *Ignition Physics Update*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148753.

Hammel, B. A., *Inertial Confinement Fusion Bimonthly Update*, January–February 2002, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TB-144675-02-1.

Hammel, B. A., *Inertial Confinement Fusion Bimonthly Update*, March–April 2002, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TB-144675-02-2.

Hammel, B. A., *Inertial Confinement Fusion Bimonthly Update*, May–June 2002, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TB-144675-02-3.

Hammel, B., and Hatchett, S., *Cone-Focussed Ignition on the NIF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149121 Rev 1. Prepared for *JASON Review*, San Diego, CA, Jul 3, 2002.

Hansen, J. F., Froula, D., Gregori, G., Price, D., Edwards, M. J., Ditmire, A., and Edens, A., *Laboratory Simulation of Supernova Shockwave Propagation*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149200-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Hanson, D. L., Vesey, R. A., Cuneo, M. E., Porter, J. L., Jr., Chandler, G. A., Ruggles, L. E., Simpson, W. W., Torres, J., McGurn, J., Hebron, D., Dropinski, S. C., Hammer, J. H., Bennett, G. R., Seaman, H., Gilliland, T. L., and Schroen, D. G., “Measurement of Radiation Symmetry in Z-Pinch-Driven Hohlraums,” *Plasma Phys.* **9**(5Pt.2), 2173–2181 (2002).

Herrmann, M., and Haan, S., *Parameter Space for Ignition Scale Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149163-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Hinkel, D. E., Schneider, M. B., Langdon, A. B., Suter, L. J., Heeter, R. F., and Springer, P. T., *Energetics of High Temperature Hohlraums*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148397-ABS Rev 1. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Hsing, W. W., *Recent Progress in High Energy Density Physics*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-144011-ABS Rev 1. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

## I

Izumi, N., Lerche, R. A., Phillips, T. W., Schmid, G. J., Moran, M. J., Koch, J. A., Azechi, H., and Sangster, T. C., *Development of a Gated Scintillation Fiber Neutron Detector for Areal Density Measurement of Inertial Confinement Fusion Capsule*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148077. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Izumi, N., Mant, G., MacKinnon, A. J., Patel, P. K., Price, D. W., Lerche, R. A., and Koch, J. A., *Development of a Gated Scintillation Detector for Neutron Spectroscopy in a Fast Ignitor Experiment*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149224-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

## J

Jones, O., Glenzer, S., Suter, L., Wallace, R., Turner, R., Schneider, M., and Landen, O., *Cocktail Hohlraum Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147840 Rev 1. Prepared for *32nd Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

## K

Kalantar, D. H., Belak, J., Bringa, E., Budil, K., Caturla, M., Colvin, J. D., Kumar, M., Lorenz, K. T., Wark, J. S., Allen, A. M., Meyers, M A., and Schneider, M., *Large-Angle Detector for In-Situ X-Ray Diffraction Measurements of Shocked Single Crystals*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149122. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Kalantar, D. H., Belak, J., Bringa, E., Caturla, M., Colvin, J., Lorenz, K. T., Kumar, M., Rudd, R., Allen, A. M., Rosolankova, K., Wark, J. S., Meyers, M. A., Schneider, M., and Boehly, T. R., *High Pressure, High Strain Rate Lattice Response of Shocked Materials*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149256-ABS.

Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Kalantar, D. H., Belak, J., Bringa, E., Collins, G., Colvin, J., Kumar, M., Rudd, R., Meyers, M. A., Paisley, D., Germann, T., Holian, B., Lomdahl, P., Swift, D., Kad, B., Boehly, T. R., and Wark, J. S., *Dynamic Properties of Shock Compressed Single Crystals by In Situ Dynamic X-Ray Diffraction and Sample Recovery*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PROP-149264.

Kalantar, D. H., *In-Situ Transient X-Ray Diffraction to Study the Lattice Response of Shocked Single Crystals*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149263. Prepared for *Joint Working Group No. 32: Nuclear Warhead Physics*, Livermore, CA, Jul 8, 2002.

Kalantar, D. H., *Multiple Film Plane Diagnostic for Shocked Lattice Measurements*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-147825-ABS. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–12, 2002.

Kalantar, D., Belak, J., Bringa, E., Caturla, M., Budil, K., Colvin, J., Kumar, M., Lorenz, T., Minich, R., Meyers, M., Rudd, R., and Wark, J., *High Pressure, High Strain Rate Materials Effects*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149262. An LDRD-ER Proposal for funding through DNT and NIF Programs, LLNL, Livermore, CA, May 14, 2002.

Kalantar, D., Belak, J., Budil, K., Kumar, M., Bringa, E., Colvin, J., Lorenz, T., Minich, R., Meyers, M., and Wark, J., *LDRD-ER Proposal: High Pressure, High Strain Rate Materials Effects*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PROP-149247

Kauffman, R. L., Suter, L. J., Miller, M., Schneider, M., Springer, P., Oades, K., Slark, G., Stevenson, M., and Thomas, B., *Hohlraum Drive Scaling with 0.53  $\mu$ m Light*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148449. Prepared for *32nd Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Kauffman, R., Suter, L., Miller, M., Glenzer, S., Grun, J., and Davis, J., *Laser-Produced Xe L-Shell Underdense Radiator Density Scaling*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149229-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Key, M. H., *Fast Ignition Research in the USA*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-146822. Prepared for *2nd US/Japan Fast Ignition Workshop*, Kyoto, Japan, Mar 24–27, 2002.

Key, M. H., *Fast Ignition*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-VG-134953 Rev 3. Prepared for *JASONs Review of the NNSA Petawatt Laser Initiative*, San Diego, CA, Jul 1–3, 2002.

Key, M. H., *Fast Ignition: Collaborative Studies of the Physics Issues and New Prospects in the USA for Its Demonstration*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147976. Prepared for *25th Anniversary Workshop on Ultra-High Field Laser Physics*, Abingdon, UK, Apr 10–12, 2002.

Key, M. H., *Laser Plasma Physics and HEDS Applications in the Short Pulse Relativistic Regime*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149705. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Key, M. H., *Laser Plasma Physics in the Relativistic Regime: A Review of Recent Experiments and Potential Applications*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148469. Prepared for *22nd Annual Conf on Lasers and Electro-Optics (CLEO 2002)*, Long Beach, CA, May 19–24, 2002.

Key, M. H., *Petawatt Science Overview*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148468. Prepared for *NIF Programs Directorate Review Committee Meeting*, Livermore, CA, May 17, 2002.

Kichinski, R., Kirkwood, R. K., Froula, D., Langdon, A. B., Kruer, W. L., Glenzer, S. H., Wurtele, J., Fawley, W., Xie, M., Sup, H. M., Charman, A. E., Lindberg, R., Fisch, N. J., Shvets, G., and Malkin, V. M., *Creating Optimal Plasma Conditions for Laser Pulse Compression by Stimulated Raman Scatter*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149001-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Kirkwood, R. K., Glenzer, S. H., Bower, D. E., Celeste, J. R., Lewis, I. T., Sewall, N., Moody, J. D., Langdon, A. B., MacGowan, B. J., Montgomery, D. S., and Seka, W., *Progress Toward Optical Scattering Measurements for the NIF Laser Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148203. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Kirkwood, R. K., Glenzer, S. H., Froula, D., Gregori, G., Moody, J. D., Williams, E. A., Langdon, A. B., Berger, R. L., Cohen, B. I., and Jones, O., *Experiments on Stimulated Scattering of Intense Laser Light*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149380. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kirkwood, R. K., Langdon, A. B., Moody, J. D., Cohen, B. I., Williams, E. A., Dorr, M. R., Hittinger, J. A. F., Divol, L., Glenzer, S. H., Berger, R. L., Suter, L. J., Landen, O. L., and Seka, W., *Scaling of Energy Transfer Between Crossing Laser Beams with Beam Intensity and Plasma Density and Temperature*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148991. Prepared for *32nd Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Kirkwood, R. K., Moody, J. D., Langdon, A. B., Cohen, B. I., Williams, E. A., Door, M. R., Hittinger, J. A., Berger, R., Young, P. E., Suter, L. J., Divol, L., Glenzer, S. H., Landen, G. L., and Seka, W., *Observation of Saturation of Energy Transfer Between Co-Propagating Beams in a Flowing Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148550. Submitted to *Phys. Rev. Lett.*

Kirkwood, R. K., Young, P. E., Moody, J. D., Langdon, A. B., Cohen, B. I., Williams, E. A., Dorr, M. R., Hittinger, J. A., Berger, R., Suter, L. J., Divol, L., Glenzer, S. H., Landen, O. L., and Seka, W., *Scaling of Energy Transfer Between Crossing Laser Beams with Beam Intensity and Plasma Density and Temperature*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148991-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Kirkwood, R., Langdon, A. B., Moody, J. D., Cohen, B. I., Williams, E. A., Dorr, M. R., Hittinger, J. A. F., Young, P. E., Divol, L., Glenzer, S. H., Berger, R. L., Suter, L. J., and Seka, W., *Scaling of Energy Transfer Between Crossing Laser Beams With Beam Intensity*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147821. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Koch, J. A., Aglitskiy, Y., Seely, J., Brown, C., and Holland, G., *4.5- and 8-keV Emission and Absorption X-Ray Imaging Using Spherically Bent Quartz 203 and 211 Crystals*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149147. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Koch, J. A., Izumi, N., Dalhed, S., Haan, S., Turner, R., Lee, R. W., Mancini, R. C., Welser, L. A., McCrorey, D. L., Marshall, F., and Klein, L., *Multispectral X-Ray Imaging of Indirect-Drive Implosions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149227-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Koch, J., Aglitskiy, Y., Amiranoff, F., Anderson, C., Batani, D., Baton, S. D., Cowan, T. E., Fisch, N., Freeman, R. R., Gremillet, L., Hall, T. A., Hatchett, S. J., Hill, M., Key, M. H., King, J., Koenig, M., Lasinski, B. F., Langdon, A. B., MacKinnon, A. J., Martinolli, E., Norreys, P., Parks, P., Perelli-Cippo, E., Rabec Le Gloahec, M., Rosenbluth, M., Rousseaux, C., Santos, J. J., Scianitti, F., Snavely, R. A., and Stephens, R. B., *X-Ray and XUV Imaging as Diagnostics of Relativistic Electron Flow and Heating in Ultra-High-Intensity Laser-Irradiated Targets*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148451. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Koch, J., and Landen, O., *Experimental Diagnostics for the National Ignition Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149629. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kozioziemski, B. J., and Collins, G. W., *Raman Spectrum of Solid Isotopic Hydrogen Mixtures*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149982. Submitted to *Phys. Rev. B*.

Kruer, W. L., *Laser Plasma Physics 1: Plasma Concepts and Overview*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149419-1. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kruer, W. L., *Laser Plasma Physics 2: Laser Plasma Instabilities*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149419-2. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kruer, W. L., *Laser Plasma Physics 3: Characterization and Control of Laser Plasma Instabilities*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-

149419-3. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kruer, W. L., *Laser Plasma Physics 4: Ultra-Intense Laser Plasma Interactions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149419-4. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Kruer, W. L., *Laser–Plasma Interactions at Intensities from  $10^{12} \text{ W/cm}^2$  to  $10^{21} \text{ W/cm}^2$* , Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149143-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Kruer, W. L., Lasinski, B. F., Langdon, A. B., Tabak, M., and Gordon, D., *Some Features of Relativistic Electron Transport for Fast Ignition*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148402-ABS. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Kruer, W. L., *Plasmas, Lasers, and Computers: A Dawsonian Brew*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148233. Prepared for *Dawson Sympsoium*, Los Angeles, CA, May 18, 2002.

Kruer, W. L., Rambo, P. W., and Wilks, S. C., *Interplay Between Energy Transport and Laser Plasma Interactions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149859. Prepared for *LLNL Workshop on Transport Physics in ICF*, Livermore, CA, Sept 9–11, 2002.

Kruer, W. L., Town, R. P. J., Lasinski, B. F., Tabak, M., Langdon, A. B., Welch, D. R., and Gordon, D., *Some Features of Relativistic Electron Transport for Fast Ignition*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149945-ABS. Prepared for *6th Intl Workshop on Fast Ignition of Fusion Targets*, Orlando, FL, Nov 16–19, 2002.

## L

Langdon, A. B., and Hinkel, D. E., *Nonlinear Evolution of Stimulated Raman Scatter in High Temperature Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148400-ABS. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Lasinski, B. F., Still, C. H., Langdon, A. B., Hinkel, D. E., and Williams, E. A., *Magnetic Fields in Laser Light Speckles*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149780. Prepared for *Electron Transport Workshop*, Livermore, CA, Sept 9–11, 2002.

Lasinski, B. F., Still, C. H., Langdon, A. B., Tabak, M., Kruer, W. L., and Key, M. H., *PIC Simulations of Short-Pulse, High Intensity Laser-Plasma Interactions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148392-ABS. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Lerche, R. A., Izumi, N., Fisher, R. K., Disdier, L., Bourgade, J.-L., Rouyer, A., Jaanimagi, P. A., and Sangster, T. C., *Neutron Images Recorded with High-Resolution Bubble Detectors*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148170. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Li, C. K., Seguin, F. H., Frenje, J. A., Petrasso, R. D., Koch, J. A., Haan, S., Amendt, P., Izumi, N., Soures, J. M., Glebov, V. Y., and Sangster, T. C., *The First Spectrometry of Charged Particles from Indirect-Drive Capsule Implosions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149228-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Lorenz, K. T., Edwards, M. J., Pollaine, S., and Remington, B. A., *Laser Driven Rayleigh–Taylor Instability Growth in an Aluminum Flyer Plate*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149413. Prepared for *High-Energy-Density Physics Summer School*, University of California, Santa Cruz, CA, Aug 4–16, 2002.

## M

MacKinnon, A. J., Glenzer, S. H., Antonini, G., Shiromizu, S., Haney, K., Froula, D., Gregori, G., Moody, J., Campbell, K., Dixit, S., Divol, L., Thorp, K., Seka, W., Bahr, R., Armstrong, J., Sorce, C., Mathers, J., Marshall, F., Huff, R., Romanovski, M., Meyerhofer, D., and Loucks, S., *Implementation of 2ω Interaction Beam and Thomson Scattering Diagnostic Beam on the Omega Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149134-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

MacKinnon, A. J., Patel, P. K., Price, D. W., Hicks, D., Borghesi, M., and Romagnani, L., *First Observation of Moire Fringes in a Laser Driven Proton Beam*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149131. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

MacKinnon, A. J., Patel, P. K., Price, D., Hicks, D., and Borghesi, M., *Proton Moire as a Technique to Measure Proton Beam Deflections in Transient Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148990. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

MacKinnon, A., Key, M. H., Town, R., Hatchett, S., Langdon, B., Lasinski, B., Collins, G., Price, D., Hicks, D., Kilkenny, J., Borghesi, M., Romagnani, L., Willi, O., Cowan, T., Stevens, R., Sentoku, Y., Ruhl, H., Boehly, T., and Koenig, M., *Applications of Laser Driven Proton Beams*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149412. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

MacKinnon, A., Patel, P. K., Price, D., Hicks, D., Hatchett, S., Key, L., Snavely, R., Andersen, C., Freeman, R. R., Sentoku, Y., Borghesi, M., Romagnani, L., Schiavi, A., Campbell, H., Haines, M., Willi, O., and Ruhl, H., *Energetic Ion Emission from Solid*

*Targets Irradiated by Laser Pulses*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148772. Prepared for *Advanced Accelerator Concepts Workshop*, Oxnard, CA, Jun 23–28, 2002.

McNaney, J. M., Pollaine, S., Lorenz, T., and Remington, B., *Microstructural Analysis of a Laser-Shocked Aluminum Alloy*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149017-ABS. Prepared for *2003 TMS Annual Mtg*, San Diego, CA, Mar 2–6, 2003.

Mizuta, A., Nagataki, S., Yamada, S., Takabe, H., and Remington, B. A., *Numerical Study of Jets from Collapsars*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149201-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Moody, J. D., MacKinnon, A. J., Glenzer, S. H., Froula, D., Gregori, G., Berger, R. L., Campbell, K., Divol, L., Dixit, S., Suter, L. J., and Williams, E. A., *First Results from Simultaneous 527 nm and 351 nm Probe Beam Interactions in a Long Scalelength Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149173-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Moody, J. D., Williams, E. A., Glenzer, S. H., Hawreliak, J., Gouveia, A., and Wark, J. S., *Investigation of the Onset and Development of Forward Scattering in an Underdense Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148588. Submitted to *Phys. Rev. Lett.*

Moody, J., MacGowan, B. J., Glenzer, S. H., Kirkwood, R. K., Kruer, W. K., Young, P. E., Williams, E. A., Collins, G. A., Sanchez, J. A., Decker, C. B., Suter, L. J., Berger, R. L., Jones, R., Pipes, J., Unites, W., Hammel, B. A., Stone, G. A., Thoe, R., Montgomery, D. S., Johnson, R. P., Geddes, C. A., Schmitt, A. J., and Lours, L., *Studies of Non-Linear Laser Propagation in a Large Laser-Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149391. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Moran, M. J., Haan, S. W., Hatchett, S. P., Izumi, N., Koch, J. A., Lerche, R. A., and Phillips, T. W., *Downscattered Neutron Imaging for ICF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149230-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Moran, M., Haan, S. W., Hatchett, S. P., Izumi, N., Koch, J. A., Lerche, R. A., and Phillips, T. W., *Energy-Resolved Neutron Imaging for ICF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148987. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Munro, D. H., Haan, S. W., Collins, G. W., and Celliers, P. M., *Relating Planar Shock Timing Targets to Spherical Ignition Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149008-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Munro, D. H., *Pulse Shaping*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149278. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

## O

Oades, K., Slark, G., Stevenson, M., Foster, J. M., Kauffman, R., Suter, L., Hinkel, D., Miller, W. M., Schneider, M., and Springer, P., *Drive Scaling of Hohlraums Heated with (2ω) Laser Light*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149231-ABS.

## P

Palastro, J., Suter, L., Haan, S., Herrmann, M., Marinak, M., and Town, R., *Sensitivity of NIF Ignition Capsules to Hot Electron Preheat*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149107. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Palastro, J., Suter, L., Herrmann, M., Marinak, M., and Town, R., *Sensitivity of NIF Ignition Capsules to Hot Electron Preheat*, Lawrence Livermore National Laboratory,

Livermore, CA, UCRL-JC-149107-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Park, H.-S., Koch, J. A., Landen, O. L., and Schmid, G. J., *High Resolution 20-100 keV X-Ray Backlighters for ICF and HEDS Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149226-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Pollaine, S., Amendt, P., Haan, S., Jones, O., and Suter, L., *NIF Ignition Hohlraum Design*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149182. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Pollaine, S., Remington, B., Lorenz, T., Edwards, J., and Colvin, J., *Rayleigh–Taylor Growth with Material Strength*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149094-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

## R

Radha, P. B., Delettrez, J., Epstein, R., Glebov, V. Yu., Keck, R., McCrory, R. L., McKenty, P., Meyerhofer, D. D., Marshall, F., Regan, S. P., Roberts, S., Sangster, T. C., Seka, W., Skupsky, S., Smalyuk, V., Sorce, C., Soures, J., Town, R. P. J., Yaakobi, B., Freje, J., Li, C. K., Petrasso, R., Seguin, F., Fletcher, K., Padalino, S., Freeman, C., Izumi, N., Lerche, R., and Phillips, T. W., “Interference of Mix in Direct-Drive Implosions on OMEGA,” *Phys. Plasmas* **9**(5Pt.2), 2208–2213 (2002).

Remington, B. A., Bringa, E., Caturla, M., Edwards, M. J., Lasinski, B. F., Lorenz, K. T., McNaney, J., Pollaine, S. M., Stolken, J., Kumar, M., and Meyers, M. A., *Materials Science at Extreme Pressures and Strain Rates*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149202-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Remington, B. A., *High-Energy-Density Physics, with Applications to Astrophysics*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148023. Prepared for *American Physical Society April Mtg 2002*, Albuquerque, NM, Apr 20–23, 2002.

Remington, B. A., McNaney, J., Pollaine, S. M., Bringa, E., Cazamias, J., and Lorenz, T., *Determining Deformation Mechanisms in Regimes of Ultrahigh Strain Rate*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149286.

Robey, H. F., Amendt, P. A., and Colvin, J. D., *The Effect of Viscosity and Mass Diffusion on the Growth of Rayleigh–Taylor and Richtmeyer–Meshkov Instabilities in Double-Shell Ignition Targets*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149204-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Robey, H. F., Perry, T. S., Klein, R. I., Kane, J. O., Greenough, J. A., and Boehly, T. R., *Experimental Investigation of the Three-Dimensional Interaction of a Strong Shock with a Spherical Density Inhomogeneity*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-143642. Submitted to *Phys. Rev. Lett.*

Robey, H. F., *The Transition to Turbulence in Laboratory Scale, Astrophysically Relevant Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147436 Rev 1. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Ryutov, D. D., Kane, J. O., Mizuta, A., Pound, M., and Remington, B., *Magnetohydrodynamics of Photoevaporated Molecular Clouds*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149102-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

## S

Schmid, G. J., Griffith, R. L., Izumi, N., Koch, J. A., Lerche, R. A., Moran, M. J., Phillips, T. W., Turner, R. E., Glebov, V. Y., Sangster, T. C., and Stoeckl, C., *A CVD*

*Diamond Ion Temperature Diagnostic for the National Ignition Facility (NIF), Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149225-ABS.* Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Schmid, G. J., Griffith, R. L., Izumi, N., Koch, J. A., Lerche, R. A., Moran, M. J., Phillips, T. W., Turner, R. E., Glebov, V. Y., Sangster, T. C., Stoeckl, C., Silbernagel, C., and Griffin, M., *CVD Diamond as a High Bandwidth Neutron Detector for Laser Fusion Diagnostics*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148070. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

Still, C. H., Lasinski, B. F., and Langdon, A. B., *PIC Simulation of LPI Over an Entire Speckle Volume in Three Dimensions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148399. Prepared for *32nd Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

Stoeckl, C., Chiritescu, C., Delettrez, J. A., Epstein, R., Glebov, V. Yu., Harding, D. R., Keck, R. L., Loucks, S. J., Lund, L. D., McCrory, R. L., McKenty, P. W., Marshall, F. J., Meyerhofer, D. D., Morse, S. F. B., Regan, S. P., Radha, P. B., Roberts, S., Sangster, T. C., Seka, W., Skupsky, S., Smalyuk, V. A., Sorce, C., Soures, J. M., Town, R. P. J., Frenje, J. A., Li, C. K., Petrasso, R. D., Seguin, F. H., Fletcher, K., Paladino, S., Freeman, C., Izumi, N., Lerche, R., and Phillips, T. W., "First Results from Cryogenic Target Implosions on OMEGA," *Phys. Plasmas* **9**(5Pt.2), 2195–2201 (2002).

Suter, L., *Exploring the Limits of NIF Capsule Absorbed Energy (Part 1)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149322-PT-1. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Suter, L., *Exploring the Limits of NIF Capsule Absorbed Energy (Part 2)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149322-PT-2. Prepared for

High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Suter, L., Hauer, A., Amendt, P., Powers, L., Ress, D., Delameter, N., Lindeman, E., Landen, N., Hsing, W., Rose, H., Hinkel, D., Dixit, S., Kauffman, B., Moody, J., MacGowan, B., Magelsson, G., Hammel, B., Glendinning, G., and Turner, B., *A Partial History of Understanding Symmetry in Laser Heated Hohlraums*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149585. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Suter, L., *Integrated Design: Developing a Comprehensive Understanding of Radiation Drive Laser Heated Hohlraums*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-149329. Prepared for High-Energy-Density Physics Summer School, University of California, Santa Cruz, CA, Aug 4–16, 2002.

Suter, L., Kruer, W., Miller, M., Kauffman, R., Oades, K., Slark, G., Stevenson, M., and Foster, J. M., *Hot Electron Production and Control with Intense Green ( $2\omega$ ) Laser Light*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149041-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Suter, L., Marshall, C., Oades, K., and Stevenson, M., *Reexamining the Possibility of Laser Based IFE Using a ~1 micron Driver*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148276-ABS. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.

## T

Takagi, M., Cook, R., McQuillan, B., Elsner, F., Stephens, R., Nikroo, A., and Paguio, S., *Preparation of NIF Scale Poly ( $\alpha$ -METHYLSTYRENE) Mandrels*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ID-148920.

Turner, R. E., Amendt, P. A., Landen, O. L., Suter, L. J., Wallace, R. J., and Hammel, B. A., *Role of Laser Beam Geometry in Improving Implosion Symmetry and*

*Performance for Indirect-Drive Inertial Confinement Fusion*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-148970. Submitted to *Phys. Rev. Lett.*

Turner, R. E., Amendt, P. A., Landen, O. L., Suter, L. J., Wallace, R. J., Hammel, B. A., and Glebov, V., *High Performance Implosion Using NIF-like Indirect-Drive Multi-Cone Geometry*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-149258-ABS. Prepared for *44th Annual Mtg of the Div of Plasma Physics*, Orlando, FL, Nov 11–15, 2002.

Turner, R. E., Bell, P. M., Alvarez, S. S., Barksdale, R. A., and Robinson, R., *Attempts to Improve MCP Phosphor Resolution by Using Thin-Film Coatings*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148997. Prepared for *14th American Physical Society Topical Conf on High Temperature Plasma Diagnostics*, Madison, WI, Jul 8–11, 2002.

## W

Williams, E. A., Berger, R. L., Cohen, B. I., Divol, L., Langdon, A. B., and Lasinski, B., *Ion-Wave-Decay Instability and Kinetic Effects*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-147823. Prepared for *Workshop on Laser Plasma Interaction*, Livermore, CA, Apr 3–5, 2002.

Williams, E. A., Cohen, B. I., Divol, L., Kirkwood, R. K., Dorr, M. R., and Hittinger, J. A., *Saturation of Crossed Beam and SBS Interactions by Trapping Induced Frequency Shifts*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-148398. Prepared for *32nd Annual Anomalous Absorption Conf*, Oahu, HI, Jul 21–26, 2002.